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Filed: **1989-09-25 / 1988-03-19**Application
Number: **JP1988000066377**IPC Code: Advanced: [H01L 21/02](#); [H01L 21/76](#); [H01L 21/762](#); [H01L 27/12](#);
Core: [H01L 21/70](#); [more...](#)
IPC-7: [H01L 21/76](#);Priority Number: **1988-03-19 JP1988000066377**

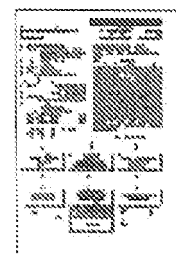
Abstract: PURPOSE: To increase the thickness of a buried insulating film and to suppress the influence of a substrate potential by forming a groove reaching the buried insulating film, selectively etching the insulating film, forming an inner cavity in the lower part of an element forming region, thermally oxidizing the periphery of the cavity and forming a buried oxide film for burying the cavity.

CONSTITUTION: Oxygen ions or nitrogen ions are implanted to the surface of a semiconductor substrate 1 to form an implanted ion high concentration region 3 in the substrate 1, the substrate 1 is heat treated to form a buried insulating film 4 in the region 3, and the internal distortion of a semiconductor layer 5 arriving at the surface of the substrate 1 from the film 4 is removed. Then, a groove 10 having an opening out of the element forming region 13 on the substrate 1 and arriving at the film 4 is formed, the film 4 is selectively etched, and an inner cavity 11 wider than the region 13 is formed in the lower part of the region 13. Thereafter, the periphery of the groove 10 and the periphery of the cavity 11 are thermally oxidized to form a burying oxide film 41 for burying the cavity 11. For example, after the film 4 is formed, a silicon epitaxially grown layer 6 is formed on the layer 5.




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PDF	Patent	Pub.Date	Inventor	Assignee	Title
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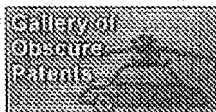
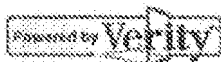
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	US6225663	2001-05-01	Yamaguchi; Yasuo	Mitsubishi Denki Kabushiki Kaisha	Semiconductor device having SOI structure and method of fabricating the same
	US5658809	1997-08-19	Nakashima; Sadao	Komatsu Electronic Metals Co., Ltd.	SOI substrate and method of producing the same

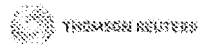
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